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WEITERE INFORMATIONEN OK

An unending variety of topics

Friday, April 07, 2006

Water from a comet

When my old employer the Jet Propulsion Laboratory slammed a 370 kilogram projectile into comet Tempel 1, it caused the release of at least 250,000,000 kilograms of water from the comet over a period of two weeks, according to the BBC. The peak rate occurred at 5 days, and it's a reasonably continuous flow. This suggests a variation on my ice rocket manufacturing technique: instead of going to all that work to extract, liquify, distill, and then freeze water from the frozen mudball, just make this kind of coma (something like a vapor geyser) and put the slowly rotating and shaded cylinder forms in the path of the coma. One probably has to tether the cylinders to the comet to keep them from blowing away, and I haven't worked out what the best distance from the comet surface is, or indeed if the deposition rate on the forms will be fast enough at a safe distance (deposition from gas is a different regime from the freezing spheres I proposed in 1992). Also the comet throws off carbon dioxide, methane, and other gases with the water, and the vapor carries some dust, so it's unknown whether the purity of the deposited ice will be sufficient to avoid overly rapid corrosion of the thermal ("steam") rocket. But the economics are potentially quite attractive so it's worth looking into. The basic economic advantage of rockets

Pages

- Home

About Me

Nick Szabo

"A premier thinker about history, law and economics, and the lessons they have for security." -- Adam Shostack, Emergent Chaos

"Szabo comes out with these essays that leave me in awe." -- Brian Dunbar

"Reading material that is eclectic, challenging and endlessly fascinating." -- Sean McGrath, Propylon

"Like most blogs worth my attention, this blog is updated only infrequently. That is because the authors of blogs worth my attention only post when they have something to say that is true, relevant and not already known by their audience. Most of the human race does not have the skill to know when an idea has these three properties. The skill is particularly rare in the fields of politics and economics, which is why this blog is such a rare and valuable thing." -- Richard Hollerith

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using native ice as the propellant source is that (once we've moved the ice to the starting orbits of our desired journeys) they save not only on the expensive launch of propellant from earth, but also on most of the remaining mass one must now launch out of earth's vast gravity well, namely propellant tanks. The BBC Tempel 1 story comes via Emergent Chaos.

Posted by Nick Szabo at 10:03 PM

Newer Post Home Older Post

Blog Archive

- ► 2018 (1)
- ► 2017 (3)
- ► 2016 (4)
- ► 2015 (3)
- ► 2014 (3)
- ► 2013 (3)
- ► 2012 (8)
- ► 2011 (12)
- ► 2010 (9)
- ► 2009 (29)
- ► 2008 (55)
- ► 2007 (47)
- ▼ 2006 (130)
  - ► December (4)
  - ► November (7)
  - ► October (15)
  - ► September (15)
  - ► August (20)
  - ► July (5)
  - ► June (10)
  - ► May (4)
  - ▼ April (3)
    - The Bellamies, nationalism, and socialism
    - Smart contracts reduce mental transaction costs
    - Water from a comet
  - ► March (11)
  - ► February (10)
  - ► January (26)
- ► 2005 (44)

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